

CLAIMS:

1. Cast aluminium alloy,

characterized in that the alloy (verb is missing in the German - consists ? - translator) at least of

1.0 - 8.0 % in weight magnesium (Mg),

> 1.0 - 4.0 % in weight silicon (Si),

0.01 - < 0.5 % in weight scandium (Sc),

0.005 - 0.2 % in weight titanium (Ti),

0 - 0.5 % in weight of an element or an element group selected from the group consisting of zirconium (Zr), hafnium (Hf), molybdenum (Mo), terbium (Tb), niobium (Nb), gadolinium (Gd), erbium (Er) and vanadium (V),

0 - 0.8 % in weight manganese (Mn),

0 - 0.3 % in weight chromium (Cr),

0 - 1.0 % in weight copper (Cu),

0 - 0.1 % in weight zinc (Zn),

0 - 0.6 % in weight iron (Fe),

0 - 0.004 % in weight beryllium (Be),

and the remainder of aluminium with further impurities to an individual max. of 0.1 % in weight and totally maximally 0.5 % in weight.

2. Cast aluminium alloy according to Claim 1,

characterized in that the alloy contains 2.0 - 7.0 % in weight, particularly 3 - 6 % in weight magnesium (Mg).

3. Cast aluminium alloy according to Claim 1 or 2,
characterized in that the alloy contains 1.1 - 4.0 % in weight, particularly 1.1 - 3.0
% in weight silicon (Si).

4. Cast aluminium alloy according to one of Claims 1 to 3,
characterized in that the alloy contains 0.01 - 0.45 % in weight, particularly 0.015 -
0.4 % in weight scandium (Sc).

5. Cast aluminium alloy according to one of Claims 1 to 4,
characterized in that the alloy contains 0.01 - 0.2 % in weight, particularly 0.05 -
0.15 % in weight titanium (Ti).

6. Cast aluminium alloy according to one of Claims 1 to 5,
characterized in that the alloy contains 0.01 - 0.3 % in weight, particularly 0.05 -
0.1 % in weight zirconium (Zr).

7. Cast aluminium alloy according to one of Claims 1 to 6,
characterized in that the alloy contains at least 0.001 % in weight, particularly at
least 0.008 % in weight vanadium (V).

8. Cast aluminium alloy according to one of Claims 1 to 7,
characterized in that the alloy contains at least 0.001 % in weight gadolinium (Gd).

9. Cast aluminium alloy according to one of Claims 1 to 8,
characterized in that the alloy contains 0.001 - 0.3 % in weight, particularly 0.0015

- 0.2 % in weight chromium (Cr).

10. Cast aluminium alloy according to one of Claims 1 to 9,
characterized in that the alloy contains 0.001 - 1.0 % in weight, particularly 0.5 -
1.0 % in weight copper (Cu).

11. Cast aluminium alloy according to one of Claims 1 to 10,
characterized in that the alloy contains 0.001 - 0.1 % in weight, preferably 0.001 -
0.05 % in weight zinc (Zn).

12. Cast aluminium alloy according to one of Claims 1 to 11,
characterized in that the alloy contains 0.05 - 0.6 % in weight, preferably 0.05 - 0.2
% in weight iron (Fe).

13. Cast aluminium alloy according to one of Claims 1 to 12,
characterized in that the alloy contains maximally 0.15 % in weight or 0.4 - 0.8 % in
weight manganese (Mn).

14. Use of the cast aluminum alloy according to one of Claims 1 to 13 for
producing thermally highly stressed cast parts, after the casting, the cast parts
being heat-treated at a temperature from 250 - 400EC.

15. Use of the cast aluminium alloy according to one of the claims preceding
Claims 1 - 13 for producing heat-resistant cast parts by means of diecasting, sand
casting, permanent mold casting, thixocasting, rheocasting or derivatives of these

methods.

16. Use of the cast aluminium alloy according to one of Claims 1 - 13 for cylinder heads, crankcases, heat-resistant safety components, air conditioner components, structural airplane components, particularly in the case of supersonic aircraft, engine segments or pylons.